

NOXIOUS TIMES

A quarterly publication of the California Interagency Noxious Weed Coordinating Committee

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Do Not Miss CalEPPC Symposium 2000 – *Exotic Plants in the Landscape: Processes and Patterns*

The California Exotic Pest Plant Council annual symposium will take place October 6th-8th at the Sheraton in Concord, California.

This year's kick off session will explore the multidimensional topic of fire and weeds. We will hear about how weeds affect fire regimes, how fire affects weed regimes, the use of fire to control exotic plants, and post-fire restoration strategies to minimize the dominance of alien plants.

Friday afternoon's session will focus on efforts supported by CalEPPC's *Cortaderia* funding program. Through the generosity of an anonymous donor, CalEPPC was able to fund a number of exciting research, education, restoration and control projects. We will hear about the benefits achieved by these projects.

Corresponding to the theme of this year's symposium, two additional sessions have been organized for Saturday. Beginning on Saturday morning, the topic will be the relationships between soils and exotic plants. Speakers will talk about soil nutrients and patterns of invasiveness, the role of Mycorrhizae in the invasiveness of *Centaurea*, and effects on soil resources by *Bromus tectorum*. Speakers in the last theme session will consider the use of computer technologies and mapping in the planning and execution of large-region exotics control programs. Topics covered will be GPS & GIS, remote sensing, ranking systems, volunteer mapping projects, and the exchange of weed data on the Internet.

Featured again this year will be a Friday evening poster session and twelve working group sessions. In addition to the plenary presentations on Friday afternoon and Saturday morning, the symposium will again highlight an open paper session this year in two concurrent sessions. On Saturday afternoon submitted papers will be presented by researchers and land managers working with invasive species in California, both of which will focus on the biology and ecology of invasive species and potential or successful management techniques or strategies.

UPDATE: Promising New Bill for Weed Management in California

Senate Bill 1740 – A noxious weed control bill, introduced into the Senate by Senator Tim Leslie, has passed on the Senate side (34-1) and is now working its way through committees on the Assembly side. The Bill is sponsored by the Regional Council of Rural Counties (RCRC).

The bill would appropriate \$10,000,000 from the General Fund to the Noxious Weed Management Account, and would specify the purposes for which these funds may be spent. It would make modifications to Assembly Bill 1168 – the noxious weed control bill that passed last year. This bill would fund Weed Management Areas to implement integrated weed management plans. Additionally, this bill would require county agricultural commissioners to submit a cost-share integrated weed management plan with specified goals to aggressively control noxious weeds in their county. This bill would provide a specified formula and criteria for the distribution of funds from this account to the specified counties. By the time you are reading this, the bill will probably be on the Governor's desk. *For more information contact – Wes Lujan (RCRC) (916)-447-4806 or Senator Leslie's office. To contact the Governor FAX: (916)-445-4633 or email: graydavis@governor.ca.gov.*

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Chairwoman's Message:

Cheri Rohrer

The war against weeds has seen activity on many fronts, and brought many diverse interests to the table. The CINWCC has a long list of agencies and stakeholders; websites dedicated to weed issues are popping up like, well, like weeds; likewise are databases dedicated to weed inventories and weed control projects cropping up all over the internet; Weed Management Areas (WMAs) are cropping up all over the state; an Executive Order addressing invasive species and forming an Invasive Species Council was signed last year; the California State Legislature is taking up a bill (SB 1740) to facilitate control of noxious weeds; there have been "weed summits", weed conferences, and weed seminars all over the country.

Now, what does all of this mean? How many weeds have died as a result of all of this activity? That's hard to quantify, but I believe that what it means is that while there is a lot of activity at all levels, weed control occurs at the local level, not at the national or state level. Local property owners and agricultural commissioners do the heavy lifting, but look to state and national governments for funding and support. The CINWCC can help by providing coordination and information sharing by the various agencies and participating stakeholders. The "Noxious Times" can help by providing up-to-date information on weed management tools. The variety of web sites can help by providing weed identification and management information, contacts for information sharing, and updates on relevant legislation.

There is a lot to be done, but there are many tools available. The increase in awareness and resources should be heartening for those of us fighting the weed wars.

Noxious Times is a publication of the California Interagency Noxious Weed Coordinating Committee. The committee was formed in 1995 when 14 federal, state, and county agencies came together under a Memorandum of Understanding to coordinate the management of noxious weeds. The committee's mission is to facilitate, promote, and coordinate the establishment of an Integrated Pest Management partnership between public and private land managers toward the eradication and control of noxious weeds on federal and state lands and on private lands adjacent to public lands.

The *Noxious Times* newsletter intends to help the committee achieve its goals of coordination and exchange of information by providing land managers throughout the state with information on weed control efforts, news, and successes.

The *Noxious Times* newsletter does not specifically endorse tools, products, or other materials reported here, rather strives to provide baseline data that will lend towards further esmination and research on the part of the potential user.

Noxious Times is published quarterly by staff of the Integrated Pest Control Branch at the California Department of Food and Agriculture. We welcome submissions for our upcoming issues. Please send to: CA Department of Food and Agriculture, ATTN: Noxious Times, 1220 N Street, Room A-357, Sacramento, CA 95814 or e-mail: noxtimes@cdfa.ca.gov

If you have a colleague whose name you would like to add to our mailing list, please send mailing information to the address above.

Noxious Times Editorial Staff: Carri Benefield, Julie Garvin, Jason Harbaugh, Steve Schoenig, and Glenn Wilber. Text written by staff unless otherwise noted.



War on Weeds Mini-Grant Winners

Siskiyou County Weed Management Area
Leafy Spurge Mapping Project -- \$2,600

San Luis Obispo Department of Agriculture and Cal Poly SLO
Development of Invasive Weed Manual for SLO county -- \$3,400

USDA Agricultural Research Service
Year Three Proposal for Biocontrol of Cape Ivy -- \$2,900

Lassen County Special Weed Action Team
Agriculture in the Classroom Conference -- \$2,400

Humboldt State University Foundation
Identification and Mapping of Yellow Starthistle Using Low Altitude
Aerial Photographs -- \$3,700

Information Filled Weed Mapping and Planning Workshop Held in June

A workshop was conducted on June 8th and 9th in Woodland with a focus on weed mapping and planning. The meeting was co-sponsored by the California Department of Food and Agriculture and UC Davis Information Center for the Environment. There were over 150 participants drawn equally from County, State and Federal government, and a strong showing of other affiliations. The first day was focused on GPS and GIS technologies; covering equipment capabilities, information about practical use and how to obtain data.

The second day was geared more towards setting up mapping and inventory projects and the use of this data and other issues in weed control program planning. While these activities don't directly kill weeds, a well planned and documented project is more likely to succeed, attract funding and collaborators, and comply with laws and regulations. The workshop attempted to integrate general principles with case studies and provide a spectrum from theoretical to practical.

A website (www.cdffa.ca.gov/workshop) has been established to make available some of the information from the workshop and to point to some of the other websites on weed mapping and planning. The workshop may be offered again in the Spring of 2001.

Email Steve Schoenig (sschoenig@cdffa.ca.gov) for more information.

USDA Environmental Quality Incentives Program Grant Recipients



**Amador Resource
Conservation District**
*Noxious Weed
Management Project*
Amador County
Grant: \$5,900

**Contra Costa Resource
Conservation District**
*Yellow Starthistle Control Video
and Outreach Campaign*
All California counties
Grant: \$26,700

**Honey Lake Valley Resource
Conservation District**
*Noxious Weed Brochures/
Field Trial/Workshop*
Lassen County
Grant: \$4,500

**Sierra Resource
Conservation District**
*Noxious Weed Education
PAT Group*
Fresno County
Grant: \$6,300

**The Regents of the University
of California UC Cooperative
Extension- El Dorado County**
Noxious Weed Management
El Dorado County
Grant: \$7,000

Taking It To The Press

BY CHASE JONES
with the Bureau of Land Management



The role of the media has become essential in noxious weed education and outreach.

There is no better way to reach the masses, influence decision makers and recruit volunteers than through a synthesis of available media outlets such as television, radio, newspapers and the internet. With a simple strategy, these media can work together to create not only the broad awareness that is so badly needed but also direct action, as people are given a variety of choices on how they can join the War on Weeds.

Now that you are ready to start your own media campaign, you may be asking: How do we effectively reach the media? The answer to this comes in three simple parts: 1. Establish a relationship with local media, 2. Pinpoint your story, and 3. Follow-up.

Building a relationship with local media

The first part of building a relationship with local media is simple. Find out the media outlets available in your area and build a media list. This can be done easily by looking in the yellow pages. The lists are usually quite large so, according to your individual program and style, narrow down the list to a manageable size with outlets that focus on your target audience.

After the media list is built, it is time to get to know the reporters and media workers. The most effective way is to get to know them personally. Some fun ways to get to know reporters include inviting them to lunch or inviting them on a field trip to your work-site. A reporter's job is to be curious so be ready to field questions from them. Prepare a list of your own questions also. Ask them questions about the type of stories they enjoy covering, the format they prefer to receive stories and what you can do to make their job easier so that your story will be in the headlines. Some general rules can be applied to stories, but each reporter will have their own personal style, so take notes!

Pinpointing & building a story

Now that the media relationship is formed you may ask: What makes a good

story? How do I pinpoint my story? A guide called "Getting Coverage: A Guide to Working with the News Media" published by the folks at For The Sake Of Salmon has a good list of general story ideas. The list states that a good story (1) concerns something local, (2) talks about an issue that affects local habitats and environment, (3) points out a potential or current problem, (4) is visually captivating, (5) features a beginning, ending or anniversary, (6) evokes emotion, and (7) school children are involved. Again, these are just general guidelines. These types of stories will generate much interest, but do not be afraid to be unique and creative. The stories that get the most attention are individual and off-the-wall because they are different.

After you have a story idea there are a few basics of story building or mechanics to mention. The most important rule to remember is to craft your story to be as simple and clear as possible. Noxious weeds can be a tedious topic, but the purpose of stories in the media is simply to get basic, general principles across to spark a reader's interest. Then, it is up to the reader to look into the subject further or attend a volunteer event.

Also be sure to explain technical parts as you deliver your story to the reporter, always be real and credible, be sure to deliver your story in a timely manner and make sure the message is sent in the proper format.

After your story is crafted, it is time to deliver your message to the media outlet. The most common way to do this is the press release. The main purpose of the press release is that it brings your story to the reporter. The second and equally important purpose of a press release is that it creates your organization's image over time. Each press release must be as good as the last, so that you become recognized as a credible source, leading to more coverage by the media outlet.

There are many different styles to a press release and the best way to find one that fits your style is to consult one of the many guides available. Make sure, however, that your press release contains plenty of contact information so the recipient can contact you for further questions, a great headline because most folks do not get past the

Follow-up

headline, and a clear body including possible photo opportunities.

The last step in your complete media blitz is follow-up. Without being a menace, a follow-up phone call is helpful after the press release has been delivered. It is a good way to make sure the press release was received and to answer any immediate questions the reporter might have and to reinforce possible photo opportunities in the increasingly visual public.

The media is an invaluable and free tool that must be utilized more in the future as a staple of noxious weed education and outreach. A quick thought emphasizes the importance of the media and getting your story to them. When was the last time you saw an advertisement on the front page of a newspaper? When was the last time you saw a public interest story on the front page of a newspaper? The reporters are out there, the public is becoming more interested; please take advantage of this situation.

Samples of successful media outreach articles

A Weed Whacker with Wings by
Susan Gilbert HealthSCOUT
April 17, 2000

Killer Weeds by Ted Williams
Audobon March-April 1997

Biological Nightmares US News Online by Betsy Carpenter

Menacing Plant Invades River
Park by Patricia Dibsey San Diego Union-Tribune January 31, 2000

Ecosystem Strained by Alien
Plant, Animal Life by Steve La Rue
SD Union-Tribune
February 9, 2000

Biological Invaders Sweep In by
Martin Enserink, Science
17 Sept. 1999

Alien Species by Carla D'Antonio &
Tom L. Dudley Pacific Discovery
Summer 1993

Exploring Alternative Methods for Integrated Roadside Vegetation Management

As part of a state-wide effort to reduce the use of herbicides for vegetation control along roadsides, the California Department of Transportation (Caltrans) has contracted the Hopland Research and Extension Center, University of California, to study how roadside vegetation can be managed with alternative methods versus those that are currently being used by Caltrans. The project is being conducted in District 1, which includes Del Norte, Humboldt, Mendocino and Lake counties, and will include field test sites in both coastal and inland areas of the district. **The California Department of Forestry and Fire Protection is cooperating in this effort, as part of an on-going effort to determine the most appropriate integrated methods of controlling exotic species in a managed forest environment.** Field test sites will be located at Hopland R & E Center and Jackson Demonstration State Forest. Other sites could be included later, prior to final testing along Caltrans roadsides. This is a three year project that is currently in the research and pilot study phase.

A literature review has been initiated to a) determine the efficacy of non-herbicide treatments in comparison to registered products on target vegetation types; b) identify existing gaps in knowledge about product efficacy; and c) summarize any environmental hazard or worker safety considerations associated with treatment materials.

Greenhouse studies have been started to test materials with preemergence and postemergence activity and tentatively include: a) corn gluten, b) vinegar (acetic acid), c) alternative non-herbicide treatments for which data on target vegetation types is lacking, d) newly-registered or newly-developed herbicides for which data on target vegetation types is lacking and e) a standard herbicide known to be effective against the target vegetation, for comparative purposes. Those materials that show potential for vegetation control will be repeated in the field studies. Mechanical treatments will also be conducted at field sites and may include mulching, flaming and steaming.

Results of this project will provide Caltrans scientifically valid information on the efficacy of, and environmental safety of, selected treatments to control roadside vegetation including the most promising non-herbicidal approaches. It will also help to spur more scientific research that addresses the environmental and economical impacts of these alternatives at a time when vegetation management methods are being looked at carefully, but needed desperately. *For more information contact Steve Young, (707) 744-1424, slyoung@ucdavis.edu*

INTERNATIONAL BROOM INITIATIVE

A Biological Control Research Effort

Invasive, non-native leguminous plants, including four species of broom and gorse, have spread rapidly in the Pacific states to occupy 2 million acres of land, presently from the coast into the Sierra and Cascade foothills. This invasion is displacing native plant communities, threatening biological diversity, reducing agricultural land productivity, causing road maintenance and safety problems and increasing fire hazard potential. The brooms and gorse are prolific seed producers. They build vast, long lived seed banks in the soil and also propagate by sprouting. Traditional weed control measures, including herbicides, implemented through expensive and controversial maintenance programs, have achieved very limited short-term control at best.

The International Broom Initiative (IBI) is currently being organized to address these concerns. Finding biological control agents from the native range of these weed species promises the best known potential for cost effective, environmentally sound, long lasting control. An integrated biological research program for all species is more cost effective than separate individual programs and reduces the likelihood of site re-invasion following control of any one of these similar alien plant species. This research is intended to identify and test host-specific control agents through the environmentally friendly biological control strategy of the International Broom Initiative.

Text of the IBI Research Proposal, which includes a work plan and budget, may be viewed at the California Exotic Pest Plant Council (CalEPPC) web site: www.caleppc.org, in the International Broom Initiative section. IBI progress updates will be posted at this location in the future as well. Dr. Andrew Sheppard of the Commonwealth Scientific and Industrial Research Organization (CSIRO) will provide project research guidance as the principal research scientist. The California Exotic Pest Plant Council, a California not-for-profit organization, has agreed to receive funding grants and tax deductible donations, and transfer funds to CSIRO. Please visit the CalEPPC web site to become more informed, and to join us in this grassroots effort to enhance our native environment.

California's Pest Rating and W

The California Department of Food and Agriculture (CDFA) has three main weed control programs. These include the: (1) Weed and Vertebrate Program, which primarily involves detection, control, containment or eradication of "A" rated noxious weeds; (2) Hydrilla Program, responsible for detection and eradication of the aquatic weed hydrilla; and (3) Biocontrol Unit that focuses on more widespread noxious weeds, the "B" and "C" rated species.

Noxious Weed Rating System Defined

The CDFA's noxious weed rating system is all too often misunderstood. Some feel that weeds such as yellow starthistle (*Centaurea solstitialis*) or Scotch broom (*Cytisus scoparius*) should be "A" rated species. However, the rating system has little to do with how "bad" a weed is, but rather is a rating of overall distribution. An "A" rated weed is normally of limited distribution within the state, a "B" rating is for pests more widespread and a "C" rating is for pests generally widespread throughout the state.

Some formal definitions:

- "A": "Eradication, containment, rejection, or other holding action at the state-county level. Quarantine interceptions to be rejected or treated at any point in the state."
- "B": "Eradication, containment, control or other holding action at the discretion of the commissioner. State endorsed holding action and eradication only when found in a nursery"
- "C": "Action to retard spread outside of nurseries at the discretion of the commissioner; reject only when found in a cropseed for planting or at the discretion of the commissioner."
- "D": "No action." These are organisms considered to be of little or no economic importance. Anything not rated as A, B, C, or Q is given a "D" rating.

- "Q": Rated species are treated as temporary "A" rated pests, denoting action outside of nurseries at the state-county level, pending determination of a permanent rating.

Noxious Weeds Pose Threat Beyond Ag Lands

Another common misconception about the CDFA's Pest Rating System is that the Department only controls weeds when they are in an agricultural setting, such as row crops. Most "A" rated weeds are found and treated along right of ways or on rangeland, while very few are found



Illyrian thistle

in production agriculture. Noxious rated weeds pose a threat to both agriculture and wildlands.

Three "A" Rated Weed Case Studies

The Integrated Pest Control Branch places great emphasis on prevention and early detection. With persistence and an active detection program, many aggressive invaders have been contained, controlled, and eradicated. Highlighted below are three case studies of species near eradication.

One: Illyrian thistle

Illyrian thistle, *Onopordum illyricum* was first detected in 1972 at the New Almaden Quicksilver Mine site in Santa Clara County. Its introduction was most likely with mining equipment. A satellite infestation was later found at a County



CDFA-IPC Golden thistle

golden thistle

Agricultural Office, where seed was believed to have escaped from bags used in clipping seed heads. This exemplifies the importance in careful transport of plant material from infested sites. As is the case with many "A" rated weeds, seeds can remain viable in the seedbank for decades. To date, only about twenty plants are found each year. Eradication will be successfully achieved when the seed bank is exhausted.

Two: golden thistle

Golden thistle, *Scolymus hispanicus* was first reported in Santa Clara County in 1894, San Mateo County in 1966, Alameda County in 1968 and Solano County in 1972. Golden thistle has been eradicated from all counties, with the exception of Alameda County. The Alameda County infestation was originally 49 net acres of plants



camelthorn

Weed Control Program

By: ROSS O'CONNELL

scattered over approximately 700 acres. Early treatments with helicopters and ground crews drastically reduced the infestation. According

to Alameda County personnel, plants have not set seed since the early 1970's, so the dozen or so plants found annually are all from the old seed bank.



CDFA-IPC Jar Method with Camelthorn

This further demonstrates that constant vigilance must be maintained in eradication projects.

Three: camelthorn

Camelthorn, *Alhagi maurorum*, is a deep rooted perennial plant, once widespread in California. This weed was believed to have been introduced via Turkestan alfalfa seed and/or packing around date palm shoots. Legislation to eradicate this plant dates back to at least 1915. An early method of eradication involved the use of an arsenic solution in a glass jar, into which camelthorn leaves were dipped. Camelthorn was historically found from as far north as Tehama County to the southern end of the State. Seventeen counties were once infested. Currently

only Inyo, Imperial, San Bernardino and Tulare Counties have incipient infestations, all of which are under eradication. While camelthorn has been eradicated from most of its former range and statewide eradication is expected in the next decade, it has been under extensive control for 85 years, again demonstrating the need for stamina.

Find Out More About Rated Noxious Weeds in California

An online resource entitled The EncycloWeedia www.cdffa.ca.gov/weedinfo Contains information on all of California's rated weeds, as well as related species, distribution maps, and a photo gallery. **Check it out!**

CDFA Biologist Endures Battle Against State's Noxious Weeds

Ross O'Connell is a fourth generation Californian. His great grandmother was born on a ranch off Eagles Nest Road in Sacramento County. His great grandfather came to California in the 1850s as a teenager and worked as a teamster, driving from Sacramento to Virginia City. Later he moved to Illinois and returned to the Sacramento area in the 1870s when he bought a ranch. At that time, there were a limited number of noxious weeds spread over his rangelands. Yellow starthistle wasn't recorded in California until the 1870s where it was found in the Bay Area. It is interesting to imagine what California vegetation looked like prior to starthistle and other introduced species.

O'Connell graduated from U.C. Davis in 1975 with a B.S. in Biology and started with the California Department of Food and Agriculture in May of 1979. His first job with the Department was as an Agricultural Pest Control Specialist where he was assigned to an alligatorweed (*Alternanthera philoxeroides*) Project in Los Angeles County. Later he transferred into a Biologist position, promoted to an Associate Agricultural Biologist, and currently serves as a Senior Agricultural Biologist with the Integrated Pest Control Branch.

Over the years O'Connell has worked on a variety of projects, including: Medfly, Japanese Beetle, and Apple Maggot. He was assigned to the Ceres District (near Modesto) in 1981, and later became a District Biologist with the Weed and Vertebrate Program. At that time, O'Connell's workload was split between vertebrate and weed pests. However, efforts spent on vertebrate pests has shifted over the years to more of an educational outreach role.

O'Connell has seen many changes in weed control since starting with the Department. The most positive change seen is the heightened awareness about invasive species at State, Federal, and local levels. On the negative side, regulatory agencies can impact or slow down weed programs. Herbicides are slow to get registered or reregistered in California, both due to bureaucracy and economics associated with required studies. A larger change was noted in the 1970s when Proposition 13 cut funding for many of the County weed control programs.

Overall, O'Connell is still very encouraged by the State's weed program. Fellow biologists all have laptop computers, GPS units, and a GIS lab to assist in making maps. The formation of the many Weed Management Areas gives the group a chance to train additional people in the identification of target weed species, and thus a chance to find infestations at a much smaller population size. With a heightened awareness of invasive species at the Federal level, O'Connell believes that it is just a matter of time before funding is increased to battle noxious and invasive species throughout California.

Giving Native Plants a Management Green Thumb

BY: E. CLARK BLOOM AND SCOTT M. STENQUIST

Refuge managers have long recognized the need to re-establish native vegetation on national wildlife refuges. This need became very obvious when managers were given responsibility for newly acquired land for the national wildlife refuge system. Many of these lands had been severely modified by former landowners. In most instances, refuge management involves removal of agricultural-based practices and return to wetlands. In some cases, such as Sonny Bono Salton Sea National Wildlife Refuge, native plants and agriculture must exist side-by-side. Farming needed to continue since the initial reason for establishing the refuge in 1930 was to avoid crop depredation by overwintering waterfowl on neighboring private farms. Refuge managers later realized that native plants were disappearing at an alarming rate, and a decision was made in the

irrigation system added in 1994, expanding plant capacity. The nursery produced nearly 300 started plants in one-gallon containers. Student Conservation Association employees, other volunteers, seasonal biological technicians, and the refuge biologist started the effort. Even though nursery output was limited, native plant projects were started at Unit I and the Headquarters Area on the refuge.

Managing Sonoran Native Plants on the Refuge

Native plants in the Southern California ecosystem, defined by the U.S. Geological Survey based on watershed delineations, include plants such as screwbean mesquite, palo verde, and saltbrush. Establishing the right mix of native Sonoran Desert plants on the refuge is a management challenge. The refuge requires skilled, intensive management to supply productive habitats for native plants, fish and wildlife. At the same time, refuge staff manages for agricultural crops such as alfalfa and winter wheat as wildlife habitat. These crops provide white geese (Snow and Ross' geese), Canada geese and other wintering birds the green foods and invertebrates necessary to build fat reserves during the winter to fuel their spring migrations to nesting areas. Integrated weed management efforts and the use of native plants and native plant nursery techniques have also increased management success against invasive plants such as saltcedar, *Tamarix ramosissima*.

Refuge Plant Nursery Expands

In 1997, the refuge was fortunate to add Raul Molina to its staff. Molina was initially hired as a temporary

employee to bolster refuge staff during botulism die-offs. Avian botulism is a paralytic disease, often fatal, in waterfowl, shorebirds, and other wading birds.

The toxin is produced by *Clostridium botulinum* in bird-, mammal-, and invertebrate- carcasses. Black fly maggots concentrate the toxin as they feed on decomposing carcasses. Living birds, mammals, and invertebrates feed on the protein-rich maggots and receive the toxin. The cycle repeats until temperatures, water levels and water quality, vegetation, dying birds, and other factors subside.

As die-off duties declined in the early winter, Mr. Molina was given the responsibility to reactivate the native plant nursery and expand existing native plant habitats. He soon recognized that the nursery would have to be greatly enlarged in order to meet the needs of both the refuge and the partnerships being developed with duck clubs, school groups and other organizations.

Teamwork for native plants and wildlife prospered with his efforts.

Molina received a permanent appointment with the U.S. Fish and Wildlife Service in 1999. Maintenance



Raul Molina repots a plant before final transplant from the native plant nursery to the refuge. Photo: S.B. Salton Sea Refuge staff 1/00

1980s to start a native plant nursery on the refuge. Now agriculture and native plants prosper at the refuge.

The rudimentary nursery was established in the 1980s and a drip



Plant shields protect against sun-scald and rodent damage. Photo: S.B. Salton Sea Refuge staff, 1/00

at Sonny Bono Salton Sea National Wildlife Refuge

Worker Molina first accomplishment was the establishment of a new plant nursery in 1999, with the help of the summer Youth Conservation Corp enrollees. Congress started the YCC program in 1973 to provide summer employment for young people 15 to 18 years old in a healthful, outdoor atmosphere and also to create an understanding and appreciation of the Nation's natural resources. YCCs expanded the nursery to 950 sq. feet of working space, with potting tables/work benches and a drip irrigation system to serve 720 plant containers. "This doubled our capacity," Molina said, "compared to 1994." Molina explained that the nursery expansion project included enclosed sides and a sun screen roof which limits the intensity of the sun and prevents scald on the seedlings. Nursery production of native plants is now at 2,500 to 3,000 started plants in one gallon containers each year—a ten-fold increase compared to 1994.

To date, Molina has grown several different native plants in the nursery. All plants were grown from seed gathered from local plants. Currently, the nursery is focused on 10 species common to the area including honey mesquite, screwbean mesquite, palo verde, ironwood, creosote bush, chuparosa, yellow bells, desert willow, wolf berry, and sweet acacia.

This new facility will also serve as the nursery for a proposed cooperative project with the California Department of Food and Agriculture, Biological Control Program. This project will provide habitat for parasitoids of the silverleaf whitefly, *Bemisia argentifolii*, through the



This honey mesquite transplant from the nursery creates wildlife habitat and increases native plant biodiversity. Photo: S.B. Salton Sea Refuge staff, 1/00.

establishment of native plants such as yellow bells, *Tecoma stans*, Family Bignoniaceae; and chuparosa, *Justicia californicus*; Family Acanthaceae. The 100-200 meter long plots are located adjacent to existing tree rows along the borders of alfalfa field on the refuge. These plots also provide improved habitat for generalist natural enemies; including big-eye bug, *Geocoris* spp.; minute pirate bug, *Orius* spp., and spiders and lacewings; that prey on alfalfa pests such as cutworms, aphids, and alfalfa weevils.

The importance of weed management, native plant nursery and native plant establishment in fish and wildlife habitat is tied together as part of the ecosystem effort. This dynamic, complex system is the basis for species and habitat biodiversity. Both Secretary of the Interior Bruce Babbitt and U.S. Fish and Wildlife Service Director Jamie Rappaport Clark have spotlighted the ecosystem approach to invasive species and the management of

native plants. The native plant nursery at Sonny Bono Salton Sea National Wildlife Refuge and the use of native plants on and off the refuge are daily reminders of active, aggressive refuge management.

E. Clark Bloom, retired Feb. 26, 2000 from the U.S. Fish and Wildlife Service, after 31-years of service to fish, wildlife, plants, and people. He last served as refuge manager at S.B. Salton Sea Refuge.

Scott M. Stenquist is the regional integrated pest and weed management coordinator, U.S. Fish and Wildlife Service, Pacific Region (Refuges/Wildlife), Portland, OR.

For More Information:

USDI-Fish and Wildlife Service
Sonny Bono Salton Sea National Wildlife Refuge
Raul Molina, Maintenance Worker
906 West Sinclair Road
Calipatria, California 92233-9744
(760) 348-5278
<http://www.r1.fws.gov/visitor/california.html>

Scott M. Stenquist, Regional Integrated Pest and Weed Management Coordinator
USDI-Fish and Wildlife Service
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Portland, OR 97232-4181
(503) 231-6172,
email: scott_stenquist@fws.gov

Profile

California Agricultural Commission *The Role of the County*

The County Agricultural Commissioner, as defined by law, is responsible for the local administration of state and local laws, rules and regulations that protect the environment, public health, safety and welfare, agriculture, and the consumer. The Ag Commissioners throughout California's 58 counties work in concert along with several local, state and federal agencies and other organizations to fulfill our mission. Activities to accomplish these duties consist of a myriad of programs, some unique to an individual county. Collectively our programs include pest exclusion, pest detection, pesticide use enforcement, fruit, egg and vegetable standardization, enforcement of apiary, nursery and seed regulations, insect and disease pest management, vertebrate pest control, weed control, predatory animal damage control, and weights and measures enforcement. Typically, individual programs may also include air pollution responsibilities or animal control.

Pest Prevention System

Under California law (section 403 of the Food and Agricultural Code) there exists a Pest Prevention System that "... shall prevent the introduction and spread of injurious insect or animal pests, plant diseases, and noxious weeds." This Pest Prevention System consists of four major components, *Pest Exclusion* (the legal authority to prevent the introduction of a pest into an area where it does not already occur, or into an area where legally established suppression or eradication activities are directed against it), *Pest Detection* (the systematic search for specific pests outside of a known infested area), *Pest Eradication* (the attempt to eradicate a pest from a defined area), *Public Information and Education*, and *Pest Identification*.

This Pest Prevention System succeeds through the collaborative efforts of the California Agricultural Commissioners, the California Department of Food and Agriculture, and the United States Department of Agriculture. Other cooperators include the Regents of the University of California, California State University and Colleges, California Department of Fish and Game, the agricultural industry and many others.

Topics under an individual Pest Prevention Program many include several subjects. Pest exclusion, for example, may entail inspecting nursery stock or grain elevators for unwelcome insects or diseases from other states or nations. If quarantined pests are intercepted, options include destruction, returning the shipment to origin, diversion, treatment, or processing, with only the most efficacious option being used.

While pest exclusion is our first-line of defense to protect the environment and public, pest detection is a close second. Due to an escalation and ease in travel both within and across our state and national borders pest detection activities are focused on catching pests that might have slipped through. (I use the term "slipped through" loosely, because some people intentionally smuggle in prohibited plant and animal products for their own personal use or gain.) Pest detection utilizing trapping and visual surveys is an integral part of the Ag Commissioners arsenal to catch and eliminate injurious pests before they have a chance to spread rampantly.

Protocol Beyond Exclusion

So what happens when a pest is intercepted outside of our first-line of defense? First, delimiting the pest's range enables us to determine what

management options would be effective and what strategies will be implemented. Options may include eradication using pesticides or other methods, or suppression by restricting movement, introducing biological control, establishing legal barriers such as through county ordinances, and/or by other means. In the past, eradication and suppression tools were applied belatedly and certain non-native pests were allowed to spread quickly throughout a region. Yellow starthistle is a good example. So what can we do to combat established non-native species? Legislation certainly helps, but cooperative programs that rely on public and private agencies, public and private property owners, and a public willing to stop the artificial spread of the pest(s) are all an integral part of the process.

One program progressively working towards the suppression of invasive non-native weeds is the Weed Management Areas developed or being developed throughout California (see *Noxious Times* Vol. 2 No. 1, Page 8-9). Another is the Weed Free Forage program (see *Noxious Times* Vol. 2, No. 3, Page 13) developed to prevent the artificial spread of noxious weeds through hay products.

Role In WMAs

A lot of information about Weed Management Areas has been printed here in the *Noxious Times*, but what is the Ag Commissioners role in the WMA? The Ag Commissioners role is primarily to provide leadership, but also to:

- ◆ assist in the development of eradication and/or suppression strategies
- ◆ provide technical expertise

Commissioners and Sealers Association

County Agricultural Commissioner



- ♦ in the use of herbicides
- ♦ provide the communication conduit between cooperators and the public and government
- ♦ seek funding
- ♦ assist in the detection and identification of noxious weeds
- ♦ establish guidelines
- ♦ disseminate biological control agents
- ♦ map noxious weed infestations
- ♦ perform other duties as necessary

What is a commissioner's role in certifying Weed Free Forage? The Ag Commissioners already had the authority under sections 5101 and 5205 of the Food and Agricultural Code to certify plant products as pest free. However to establish uniformity in the Weed Free Forage Program, the California Agricultural Commissioners and Sealers Association adopted guidelines to establish consistency when certifying hay, straw or mulch as weed free. (See Weed Free Forage Guidelines on page 12)

I hope this insight into the County Agricultural Commissioner's role to prevent the introduction and spread of pests was informative. If you have any further questions, please do not hesitate to contact your local agricultural commissioner for assistance.

This article was contributed by Mark Quisenberry, Chairman of the Weed and Vertebrate Committee, California Agricultural Commissioners and Sealers Association

COUNTY	COMMISSIONER	PHONE
Alameda	Whitaker, Earl	510-670-5232
Amador	Boitano, Mike	209-223-6487
Butte	Price, Richard	530-538-7381
Calaveras	Howard, Jearl	209-754-6504
Colusa	Krug, Harry	530-458-0580
Contra Costa	Meyer, Edward	925-646-5250
Del Norte	Anderson, Glenn	707-464-7231
El Dorado-Alpine	Snodgrass, Bill	530-621-5520
Fresno	Jerry Prieto	559-456-7510
Glenn	Romano, Ed	530-934-6501
Humboldt	Falkenstrom, John	707-445-7223
Imperial	Birdsall, Stephen	760-339-4314
Inyo-Mono	Milovich, George	760-873-7860
Kern	Davis, Theodore	661-868-6300
Kings	Bray, Dennis	559-582-3211
Lake	Lockhart, Mark	707-263-0217
Lassen	Smith, Kenneth	530-251-8110
Los Angeles	Fiksdal, Cato	626-575-5451
Madera	Rolan, Robert	559-675-7876
Marin	Carlsen, Stacy	415-499-6700
Mariposa	Cripe, Donald	209-966-2056
Mendocino	Bengston, David	707-463-4208
Merced	Tanner, Michael	209-385-7431
Modoc	Moreo, Joe	530-233-6401
Monterey	Lauritzen, Eric	831-759-7325
Napa	Whitmer, David	707-253-4357
Nevada	Boch, Paul	530-273-2648
Orange	Le Feuvre, Richard	714-447-7100
Placer	Turner, Christine	530-889-7372
Plumas-Sierra	Bishop, Karl	530-283-6365
Riverside	Wallace, James	909-955-3045
Sacramento	Carl, Frank	916-875-6603
San Benito	Tognazzini, Mark	831-637-5344
San Bernardino	Layaye, Edouard	909-387-2105
San Diego	Thuner, Kathleen	858-694-2739
San Francisco	Frieders, David	415-285-5010
San Joaquin	Hudson, Scott	209-468-3300
San Luis Obispo	Greek, Richard	805-781-5910
San Mateo	Raabe, Gail	650-363-4700
Santa Barbara	Gillette, William	805-681-5600
Santa Clara	Van Wassenhove, Greg	408-299-2172
Santa Cruz	Moeller, David	831-763-8080
Shasta	Pfeiffer, Mary	530-224-4949
Siskiyou	Stephans, William	530-841-4025
Solano	Cohen, Susan	707-421-7465
Sonoma	Westoby, John	707-565-2371
Stanislaus	Cripe, Donald	209-525-4730
Sutter	Quisenberry, Mark	530-822-7500
Tehama	Black, Mark	530-527-4504
Trinity	Thesken, Jay	530-623-1356
Tulare	Craft, Lenord	559-733-6391
Tuolumne	Benincasa, Gerald	209-533-5691
Ventura	McPhail, Earl	805-933-3165
Yolo	Paulsen, Scott	530-666-8140
Yuba	Pooler, Dennis	530-741-6484

Contact Your County Agricultural Commissioner

Profile continued from page 11

Guidelines under California Food and Agriculture Code Section 5101 & 5205 for the CERTIFICATION of WEED FREE FORAGE, HAY, STRAW and MULCH

STATEMENT OF PURPOSE

The purpose of these rules is for the certification of forage free from noxious weeds. Forage certified under these procedures will satisfy the requirements of The United States Forest Service, Bureau of Land Management, The National Park Service and any other agency accepting these procedures, permitting only weed free forage on lands under their control. Included are definitions of terms, state list of noxious weeds, procedures for inspection and certification of weed free forage, and procedures for identifying and tracking certified forage crops. Authority to certify forage as weed free is permitted under sections 5101 and 5205 under authority of section 403 of the California Food and Agricultural Code.

1.00 DEFINITION OF TERMS

- a. Weed free means to be free from propagative plant parts and seed from plants listed in the California Code of Regulations, Title 3, Division 4, Chapter 6, Subchapter 6, Section 4500.
- b. Propagative plant parts are any part of a plant capable of reproducing itself, including live roots, rhizomes, stolons or any other viable part.
- c. Noxious weed means any species of plant that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or native plant communities, and difficult to control or eradicate, which the secretary, by regulation, determines to be a noxious weed.
- d. Secretary means the Secretary of the California Department of Food and Agriculture.
- e. Certification as used in this document means to certify a forage cutting as to the producer, commodity, amount of production and freedom from weed content.
- f. Forage includes hay, straw or mulch.
- g. Producer is the grower of the forage.
- h. Commissioner as used in these rules includes county agricultural commissioners and their deputies and inspectors.

2.00 WEED LIST

- a. Certified Weed Free Forage shall be free from propagative plant parts of noxious weeds listed in section 4500 of title 3, division 4, chapter 6, subchapter 6 of the California Code of Regulations.

3.00 PROCEDURES FOR CERTIFICATION OF WEED FREE FORAGE CROPS

- a. Application for certification shall be made by the producer or his agent to the agricultural commissioner of the county where the crop to be certified is growing or to be grown. Such application shall be made no later than 14 days prior to harvest. Application shall be made on a form(s) required by the commissioner. Application shall include grower name, address, telephone number, field location(s), crop, acreage(s), estimated yield and a detailed map of the field(s) to be certified.
- b. Requests for certification inspections shall be made at least 14 days prior to harvest. Requests may be made in person, by phone, or by fax or any other method permitted by the commissioner. Requests shall include grower, field number or location, crop, date of proposed harvest, and estimated total production by weight and number of bales.

4.00 INSPECTION PROCEDURES PRIOR TO CUTTING

- a. The forage crop shall be inspected in the field of origin by the agricultural commissioner no more than 5 days prior to harvest. The inspection shall include surrounding ditches, fence rows, rights of way and buffer zones. The harvested forage crop shall be removed from the field within 14 days and shall be stacked and stored at any site where it would not be allowed to become contaminated with propagative noxious weed components.
- b. Forage which contains any weed(s) designated on the prohibited noxious weed list may be certified weed free if the following conditions are met:
 1. Live roots, rhizomes, stolons, seeds, or other propagative plant parts of noxious weeds are not present in the forage to be harvested.
- c. Inspection procedures should be based on but not limited to methods outlined in the California Department of Food and Agriculture Nursery Manual and Quarantine Circulars, Seed Manual and the National Plant Board Plant Quarantine, Nursery Inspection, and Certification Guidelines.

5.00 PROCEDURES FOR TRACKING AND IDENTIFYING CERTIFIED FORAGE

- a. A certificate of inspection shall be completed for each field and crop cutting inspected. The certificate shall document that all conditions of these rules have been met, and shall contain the growers name, address, commodity, and estimated amount by number of bales and weight.
- b. The producer shall keep inventory sheets for each cutting from each field and maintain records of each sale and quantity sold from each cutting.
- c. The producer shall maintain these records for 2 years and make them available for inspection by the county agricultural commissioner.
- d. All inspected forage shipments shall be accompanied by an embossed shipping document, or a tag, either of which may be issued by the county agricultural commissioner. Individual units which are subdivisions of the total shipment may be bound with a designated color-coded twine supplied to the agricultural commissioner by the U.S. Government and distributed to the producer. The use of these forage identification mechanisms shall be evidence that the forage is certified by the county agricultural commissioner to be weed free and traceable to the source of the original cutting.
- e. Records shall be maintained for two years by anyone receiving shipments of certified weed free forage with the intention of distributing the product as certified weed free either as a complete shipment or sub-divided.
- f. Each sale of sub-divided or partial shipments shall be accompanied by a receipt when requested by the buyer with the statement "The forage, hay, straw and/or mulch categorized by this receipt has been certified to be free from noxious weeds in accordance with the Food and Agricultural Code of California."

6.00 VIOLATIONS

- a. Any county agricultural commissioner, under the authority of section 5311 with reference to section 5208 of the State of California Food and Agricultural Code, may at any time, initiate a notice and hearing process to determine whether a violation of these provisions has occurred. Violations of Federal requirements concerning weed free forage on federal grounds will not be enforced by agricultural commissioners. The hearing process may review the actions of:
 1. The certificate holder
 2. Any other person whose actions may have resulted in the violation.
- b. The notice of hearing shall be on a form approved by the secretary and contain:
 1. Specific provisions violated, and a warning to cease such violations.
 2. A hearing date to determine if the certificate(s) involved in the violation or participation privileges should be revoked.

7.00 FEES

- a. The county agricultural commissioner may charge a fee for conducting inspections and issuing certificates as set by the board of supervisors of that county, but not to exceed the actual cost of the performing the inspections and issuing the certificates as permitted by section 5202 of the California Food and Agricultural Code.

Executive Order 13112: Implications for Roadside Weed Management

Corridors, including California's vast network of roadways and highways, are major vectors for noxious and invasive weed spread. Activities required for the construction (movement of contaminated equipment from site to site), maintenance, and upkeep (mowing, scraping, snow plowing, etc) of our roadways often result in the movement of invasive weed seed and reproductive vegetative parts. Due to the signing of Executive Order 13112 (E.O. 13112) by President Clinton February of 1999, transportation agencies will be taking a closer look at their activities and the spread of invasive species. The E.O. calls for agencies to work to control and prevent the introduction and spread of invasive species.



Because of the E.O., Caltrans will be looking much more closely at vegetation management along our State Highways. Construction, maintenance, landscape practices, and erosion control that contribute towards the spread or introduction of invasive species will be evaluated. Caltrans will continue to investigate the most current and innovative prevention, eradication, and control techniques for invasive species control. Further, Caltrans plans to evaluate species selection and planting techniques on the roadsides to prevent the spread of invasive species. Caltrans will also work towards providing more information on invasive species to their district staff across the State.

Under E.O. 13112 each project with Federal involvement that Caltrans undertakes must provide a complete project analysis including a section on the potential introduction, promotion, or spread of invasive plants and animals. The analysis will identify invasive species in the project area and include a discussion

of the potential impacts that disturbances might cause in terms of promoting the spread of invasive species. Further, the analysis will include a discussion of any preventative measures used during the project and strategies that will be implemented when invasions occur. Without a complete analysis, the Federal Highway Administration (FHWA) and State counterparts, will not approve permits for the scheduled projects.

E.O. 13112 provides several guidelines for state agencies, such as Caltrans, in increasing efforts towards preventing and slowing the spread of noxious and invasive weed species. It will take a continued, coordinated effort of state and federal agencies, University Extension, Weed Management Area groups, and private land owners to address the goals and guidelines put forth in the E.O. 13112.

E.O. 13112 highlights related to transportation agencies:

-No allocation of Federal dollars for any State contract that deliberately plants invasive species as listed on each State's noxious weed list.

-Allocation of Federal funds for vegetation management programs (completion of statewide vegetation inventories are encouraged).

-Inclusion of invasive species prevention and control issues early in the project planning process.

For more information please contact:

Ellen Wagner with Caltrans at Ellen_Wagner@dot.ca.gov or Bonnie Harper-Lore in Washington D.C. with the Federal Highway Administration, (651) 291-6104.

Minutes of the California Interagency Noxious Weed Coordinating Committee Meeting USFS Office, Sacramento, CA April 18, 2000

Introductions and Review of Agenda

Agency Reports and News Highlights

- ◆ Dave Dyer (NRCS) – Open House at the Plant Materials Center in Lockford May 10th focusing on weed control issues and projects.
- ◆ Cindy Royce – (California State Parks) Their budget has \$500,000 for weed control. More funds are being sought.
- ◆ Danny Hamon (USDA-APHIS) – Working with CDFA to fund *Salvinia molesta* detection and control work. There is a new Plant Protection Act that is out for comments.
- ◆ Joanna Clines (US Forest Service) Weed Free Forage(WFF) working group is meeting with equestrian groups and other end-users to advance the program. There is an attempt to develop a coordinated group of agencies to synchronize WFF regulations. There is a proposed budget augmentation for weed control in the FS budget.
- ◆ CDFA is continuing to promote Weed Management Areas, preventative weed control and coordinated mapping of noxious weeds. New website: www.cdfa.ca.gov/weedhome

Broom initiative – Walt Decker from Jackson Demonstration State Forest discussed the International Broom Biocontrol Initiative and the need for agency funding. See article on page 5.

A discussion of re-evaluating CINWCC focus and short term goals was postponed to a meeting with higher attendance.

Placer/Nevada Weed Management Area Battles Musk Thistle at Boca Hill Reservoir

In June, the Placer/Nevada Weed Management Area group sponsored a Weed Pull Day at Boca Hill Reservoir, off of Interstate 80, just past Truckee. The group was targeting musk thistle, a pest under eradication by the State. Musk thistle (*Carduus nutans*) is a biennial plant which forms a low growing rosette of leaves in the first year and sends up a single flowering stalk the second year. This pest spreads rapidly forming extremely dense stands which crowd out desirable forage. Musk thistle poses a threat to forest, range, stream bank, and roadside areas.

The Boca Hill population of musk thistle was found nearly five years ago. The infestation lies above Boca Reservoir, which serves as a local drinking supply. With the proximity of the reservoir in mind, project cooperators have joined forces to use volunteer muscle to work towards mechanical eradication.

Eric Gunderson from the Nevada County Ag Commissioner's office opened with an overview of the Weed Management Area's mission and goals. Rod Kerr from the California Dept. of Food and Agriculture followed with a presentation about invasive species impacts on California's landscape over the past century. Before volunteers were sent out weed bashing, Kathy Van Zuuk, Invasive Species Coordinator for the Tahoe National Forest, gave some background on the musk thistle project at large and taught participants how to identify musk thistle from other vegetation.

Shovels in hand, volunteers set forth to remove any and all musk thistle both up and down the slopes of Boca Hill. At lunch time crews assembled for a barbecue sponsored by the WMA with donations from local businesses. At the day's end, volunteers had made a dent in the infestation and were successful in holding the line against further spread down slope.

The event was very well attended with representation from Tahoe National Forest, California Native Plant Society, several Resource Conservation Districts, Natural Resource Conservation Districts, Nevada and Placer County Agricultural Commissioner's Offices, Sierra Pacific Industries, California Dept. of Food and Agriculture, County Board of Supervisors, and local citizens from the surrounding community, amongst others.

To find out more about the project contact Kathy Van Zuuk, Tahoe National Forest (530) 478-6243 or Eric Gunderson, Nevada County Ag Commissioner's Office, (530) 273-2648.



Kathy Van Zuuk shows volunteers how to identify musk thistle



Eric Gunderson points out boundaries of the infestation.



Shovels were the tool of choice



Dave Chaney displays a musk thistle casualty



Volunteer hard at work



TOOL BOX: the Weed Wrench, Root Talon, & Cattail Knife

The TOOL BOX highlights new tools that might integrate well into local weed management tool boxes. The Noxious Times does not specifically endorse tools featured, but rather strives to provide baseline data that will lend towards further examination and research on the part of the potential user.

Description: The **weed wrench** is a manually operated tool made of solid steel that was invented to pull broom plants out by the stem. Its strong jaws and 6:1 leverage ratio make it very effective at removing various sized trees from even dry, packed earth. It works on almost all woody plants, as well as herbaceous plants that have strong enough stems to pull the root ball out of the ground. Because of the weight of the Weed Wrench it's best to choose the smallest size that will accomplish your task. The tool comes in four sizes with all but the Mini size used while standing up. All materials and workmanship are guaranteed for normal usage. The jaw capacities of the different sizes are as follows: Heavy - up to 2.5", Medium - up to 2", Light - up to 1.5", Mini - up to 1". Unfortunately the Weed Wrench is a relatively expensive weed control tool ranging from \$148* for the Heavy to \$54* for the Mini.



How to Use: Place the jaw of the Weed Wrench around the target plant using the jaw-catch feature (not available on the Mini size) to keep the jaws open. Clamp the jaw tight around the stem. Wrench the tool away from the jaw-side pulling the plant up as you go.

Target Species: Acacia, Brazilian pepper, buckthorn, conifers, eucalyptus, French broom, gorse, holly, honeysuckle, manzanita, multiflora rose, Norway maple, Russian olive, Scotch broom, tamarisk, and willow.



Description: The **root talon** is a medium priced (\$47*) hand tool that works along the same lines as the Weed Wrench, but is much lighter. It has a specialized fork and gripping flange that allows you to hold on to the weeds' stems as you lever them out of the ground. The handle is made of a durable fiberglass. It is very effective at uprooting shallow-rooted plants like annual mustards and other herbs with flexible stems, as well as saplings and shrubs. It is difficult to use with spiny plants because you have to hand-position the plant in the flange. Another disadvantage is that deep-rooted trees with brittle roots like Tamarisk tend to snap off underground.



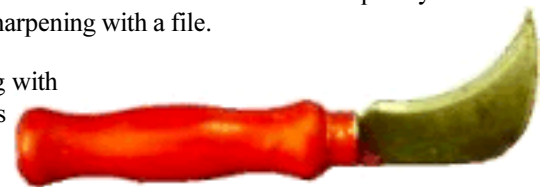
How to Use: Position the Talon, pull the handle, and lever out the plant.

Target Species: Ailanthus (Tree-of-Heaven), Sesbania, buckthorn, unwanted saplings, and various other noxious weeds.



Description: The **cattail knife** is the least expensive of all three tools mentioned here at \$5-10 each and is readily available at any good-sized hardware store. The edge of a Cattail Knife is extremely sharp allowing it to slice through very thick herbaceous stems without much effort. The sharpness and size of the blade also make it dangerous, so use with care. The blade dulls quickly with use on fibrous plant tissue, making it harder to use, but the edge is quickly regained after sharpening with a file.

How to Use: Grab the intended plant close to the base (use thick gloves when dealing with thistles) and slice across the stem making sure to dispose of removed plant parts appropriately.



Target Species: mustards, thistles, and other herbaceous weeds.

Weed Wrench:

New Tribe*

c/o Tom Ness & Sophia Sparks
5517 Riverbanks Rd
Grants Pass, OR 97527
(541) 476-9492

newtribe@cdsnet.net

Root Talon:

Lampe Design, LLC*

262 South Griggs St
St. Paul, MN 55105
(612) 699-4963

jklampe@worldnet.att.net

Cattail Knife:

Your local hardware store

Information for this article was obtained from The Nature Conservancy web sight: www.tnc.org/state/california--- a great resource!

Upcoming Events:

October 3rd-5th, 2000

CALFED Bay-Delta Watershed Science Conference

Convention Center, Sacramento, CA

This conference is being designed as a forum for presenting scientific information and ideas relevant to CALFED's goals and objectives in the San Francisco Bay and Delta watershed pertaining to ecosystem restoration, levee system integrity, and water quality. It features a mix of plenary and contributed talks and poster presentations on several topical themes, including Invasive Species.

For more information:

www.iep.water.ca.gov/calfed/sciconf/

October 6th-8th, 2000

CalEPPC Symposium

Sheraton, Concord, CA

Learn the latest about exotic pest plant control, the interplay of weeds and fire, how soils and exotics interact, and how to use computer technology in control programs.

For more information: www.caleppc.org

Resources and Publications

Invasive Plants of California's Wildlands

A great NEW resource is finally here! Edited by Carla C. Bossard, John M. Randall, and Marc C. Hoshovsky, this book provides specific information about the biology and control of 78 non-native plant species listed by CalEPPC as being of the greatest ecological concern. Includes detailed photos and drawings to aid in identification. This new resource will be **available August 2000**, \$30 paperback, \$60 hardback. For more information: <http://www.ucpress.edu/books/pages/9109.html>

Precious Heritage: The Status of Biodiversity in the United States

A new book by the scientists of the Nature Conservancy. Drawing on more than 25 years of biological data compiled from all 50 states. It provides the most comprehensive look yet at our nation's overall biological health. It also offers scientists and policy makers a critical tool for determining where conservation dollars should be spent in the coming decades.

Arundo Educational Materials:

Arundo Brochures (free), Landowner Handbooks (\$2 - limited quantities), Organizational Guides (\$2 - limited quantities), and videos available. Send requests to mnewhouser@vom.com or Mark Newhouser, 4277 Wake Robin Dr., Glen Ellen, CA 95442 or call (707) 939-0329.



CALIFORNIA INTERAGENCY NOXIOUS
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NOXIOUS TIMES

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